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"Damage Control" II—A

Continuing Public Deception

In each, three elements kept suggesting the involvement of Nixon despite his constant denials:

1. Nixon had the opportunity to plan and order the obstruction of justice (as indicated in this first instance by his many meetings with men who later were indicted in the Watergate conspiracy).

2. Such plans indeed were put into effect.

3. Despite persistent appeals that he do so, Nixon never produced evidence to clear himself and, in fact, resisted releasing evidence or allowed evidence to be destroyed.

—B. Sussman
The Great Cover- Up: Nixon. and the Scandal of Watergate.

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Even without that one specific link the FDA has stated that there is no evidence to show that the portable cellular telephones are safe, this in spite of the industry's insistence that there are 10,000 such studies. The FDA knows no such studies exist. The cellular telephone industry knows no such studies exist. You now know that no such studies exist. Now you know that

many studies contradicting the cellular industry's position do exist.

Even as research into the hazards of radiofrequency radiation exposure is taking place, communications researchers and engineers are advancing the technology to newer and expanded capabilities. A. J. Rustako, et al., have reported that microcellular communication systems at 900 MHz and at 11 GHz (11,000 MHz) may provide for significantly reduced radiated power levels necessary from portable and mobile cellular telephones.184 The idea is to place cell sites closer together so that portable cellular phones don't need to transmit as much power for the signal to reach the cell site. The reduced power radiated, about three hundred times lower than that of today's portables, would mean less power absorbed in the user's brain.

If, at the same time, the newer system were set up at 11 GHz the energy absorption within the user's brain would also be reduced significantly. Recall, other researchers have repeatedly documented that higher frequency results in reduced deep penetration of radiofrequency radiation. So, by shifting the system operation to 11 GHz the problems of energy penetrating into the human brain will be significantly reduced. However, there is a downside. Even though increased frequency provides a reduction in deep tissue penetration, it simultaneously produces an increase in superficial tissue absorption.

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184 A. J. Rustako, gp et al., "Radio Propagation at Microwave Frequencios for Line-of-Sight Microcellular Mobile and Personal Communication," IEEE Transactions on Vehicular Technology VT-40, no. 1(February 1999):203-10.

Keep in mind, though, that the research base has indicated biological effects at very low—level exposures. The shift to 11 GHz eliminates one set of problems but not all problems. The low level radiation exposure effects and the nonuniformity effects will persist.

2

During a July 1993 press conference the CTIA (Cellular Telecommunications Industry Association) took the public relations offensive by proclaiming that their new research program Was meant to reassure the users of portable cellular telephones that they, the portables, were safe and that their research would reaffirm that position. Officials at the U.S. Food and Drug Administration were angered by the disdainful attitude of the CTIA.

In a letter to CTIA president Thomas Wheeler, Elizabeth Jacobson, deputy director for science at the Center for Devices and Radiological Health, Food and Drug Administration, wrote:

Both the written press statements and your verbal comments during the conference seemed to display an unwarranted confidence that these products will be found to be absolutely safe. In fact, the unremittingly upbeat tone of the press packet strongly implies that there can be no hazard, leading the reader to wonder why any further research would be needed at all. (Some readers might also wonder how impartial the research can be when its stated goal is "a determination to reassure consumers," and when the research sponsors predict in advance that "we expect the new research to reach the same conclusion, that the cellular phones are safe.")

We are even more concerned that your press statements did not accurately characterize the relationship between CTIA and the FDA .... [S]ince it is not yet clear whether we will help to direct the research program, it is premature to state that we will credential the research.

To sum up, Mr. Wheeler, our role as a public health agency is to protect health and safety, not to reassure customers. I think it is very important that the public understand where we stand in evaluating the possibility that cellular phones [portable cellular telephones] might pose a health risk. [185]

So there it is—the cellular industry's flagrant misrepresentation that the government agencies are participating in and supporting the program. The fact is that the FDA has not been able to come to an agreement with the CTIA because the CTIA would not provide the FDA with the necessary control over the program. In essence, the objections raised of research bias, peer review bias, and industry control of the entire program have not been removed. And the CTIA's conduct seems to reinforce those concerns.

As if that weren't enough, the U.S. Environmental Protection Agency (EPA) made charges against the adequacy of the new ANSI C95.1-1992 safety standards. The EPA has admonished the FCC not to adopt the newly revised standard because it does not represent the scientific knowledge on a number of points.

For one, the new IEEE/AN SI guideline neglects all consideration of the voluminous research data that now

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185 *"FDA to CTIA: There Isn't Enough Data to Gauge Cellular Phone Risks," Microwave News 13, no. 4 (July/August 1993).*

indicate the existence of nonthermal effects of radiofrequency radiation exposure. In this regard the EPA disagrees with the standards committee position that they have considered all possible bioeffects mechanisms in arriving at the new standard —it has not considered low-level radiation effects. These effects have been known and continue to be revalidated with new research regularly.

Not surprisingly, the telecommunications industry has urged the FCC to adopt the revised ANSI C95.1-1992 safety standard. Om Gandhi wrote that

> ***The power limit prescribed in ANSI/IEEE C95.1-1992 under exclusions for the uncontrolled environment is certainly quite conservative for the present-day cellular telephones operating at 820-850 MHz.***

This correspondence was provided as Gandhi sent his false research findings to the FCC. In view of his "corrected" energy absorption numbers, Gandhi's endorsement of the ANSI/IEEE standard is meaningless.

How can we rely on the assurances of a researcher who splashes false research findings across the newspapers of the world one day and then quietly modifies those findings in private communications to the FCC almost a full year later?

A statement from McCaw Cellular Communications, Inc., dated January 25, 1993, cited Gandhi's wholly inaccurate, unverified, unpublished, and unreplicated research findings without a corresponding statement of concern or correction when Gandhi's gross errors became known only a short time later.

Gandhi finally reported his errors to the FCC during August 1994. He first presented evidence that his earlier

results were incorrect at the Bioelectromagnetics Society meeting during June of that year. Nonetheless, he withheld that information from the FCC and the public. According to Microwave News,

when asked why he waited so long to acknowledge them [the errors] he said that he was under no obligation to do so. [186]

We have already noted that the experimental findings that Gandhi first released at the European Congress were not peer-reviewed or published. That is one of the requisite steps the industry claims to be necessary before it will accept research findings. Curiously, those findings were never validated before being enthusiastically embraced by the cellular telephone industry.

Instead, the "news" was released to the worldwide media as "proof" that portable cellular telephones were safe. The national media picked up the proclamation and broadcast it widely. When the retractions by Gandhi came, they did so through private communications to the FCC. No news blitz and no press release accompanied the new Gandhi calculations, which, in fact, "proved" that SARs were much higher than originally proclaimed. As a matter of fact, some of the SARs were, but for the exclusion clause, above the maximum allowed by the ANSI safety standards.

As our earlier review of the radiation absorption research has pointed out, the only noteworthy findings of Gandhi's research are that the modified and corrected absorption data are now nearly identical to the findings of

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[186] *"Cellular Phone Notes," Microwave News 14, No. 5 (September/October 1994):8.*

many nonindustry researchers. That is, the results agree that most of the radiation is absorbed within the head and brain of the user.

Even while the numerous reports of high energy absorptions continue, manufacturers claim there is no possibility of harm as a result of operating their portable cell phones. However, it is known that they engaged in research to shield the heads and brains of users from the penetrating radiation—but only after the hazard issue became public.

A number of quick fixes proved only about as effective as would reducing the power of the telephones. That is, if one simply reduced the power of the portable it would accomplish the same reduction in radiation absorption. However, that effectively makes the portables useless. Recall that many years earlier industry researchers proposed exactly the same thing. Prophetically they wrote that in order to reduce the absorption from radiation to acceptable levels the radiation from the portables would need to be reduced to levels useless for communications.

Interestingly, at the same time that the cellular telephone industry was scrambling to shore up the indefensible position, a controversy regarding safe exposure levels erupted within the U.S. Air Force. Apparently, researchers at Kirtland Air Force Base have determined that the most recently proposed IEEE/ANSI safety standards are not representative of the real hazards associated with radiofrequency radiation exposure. They have recommended that the maximum exposure level be reduced by 100 times to 0.1mW/cm2 and have adopted the reduced maximum exposure as a guideline for Kirtland workers. This is a sharp contrast to the representations coming from the air force's researchers at its Armstrong Lab in

San Antonio. Armstrong Lab spokesmen remain adamant that no harmful effects can come from radiation exposures below the thermal threshold.

This new, lower exposure standard adopted at the Kirtland Lab is consistent with a reduced exposure standard adopted at the Johns Hopkins University Applied Physics Lab and at the Ground Systems Group at the Hughes Aircraft Company.[187] The newly adopted exposure level is 100 times lower than recommended in the most recent proposed revision to the ANSI safety standard.

Isn't it interesting to watch the military react to the low exposure restrictions that have been imposed by researchers within one of its own labs? It is equally interesting to notice that a leading industry participant, such as Hughes, has adopted such drastically reduced exposure guidelines. And isn't it also interesting to find that both of the reduced exposure guidelines conform with the safety levels established by the highly regarded Johns Hopkins University?

3

Patience isn't usually a virtue in the world of manufacturing, but in this instance it may prove to be exactly that for the telecommunications industry. The industry interests know that sooner or later the current form of cellular telephone communication must change. Otherwise, the public uproar will become so great that the status quo and media control will no longer be maintainable.

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[187] *"ANSI RF/MW Standard Challenged," Microwave News 13, no. 5 (September/October 1993):1*

The industry's hope is to have enough time to develop and implement the low-power next-generation cellular telephone system. Research into that area is ongoing. H. H. Xia, et al., have reported on a microcellular communication systems operating at 900 MHz and 1900 MHz.188

The new system is proposed to operate at a reduced power level of 10.0 mW. That is 60 times lower than the current 600 mW (0.6 W) portables and at least 300 times lower than for the satellite systems power level.

The current generation portables, operating at 0.6 watts, are a compromise between radiated power and service efficiency. Since the original cellular system was put into operation with cell sites anywhere from five to ten miles apart, it was necessary to provide portable units with as much radiated power capability as possible.

At the time that the cellular communication system was introduced there just weren't enough cellular subscribers to make it profitable to locate cell sites much closer together. Now, with the phenominal success of the cellular technology the industry is poised to remedy two ills. By putting in place a completely new cellular system with cell sites only about one thousand feet apart, instead of ten miles, the service providers will be able to operate portable units at 0.01 watts and at the same time improve service.

It's as if the two schools of research, communications and bioeffects, were finally progressing together. The advances in the "microcell" concept. are becoming very important in view of additional reports of energy absorption experiments that are continually and consistently yielding higher SAR numbers.

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188 H. H. Xia, et al., "Radio Propagation Characteristics for Line-of-Sight Microcellular and Personal Communications," IEEE Trans. on Antennas and Propagation 4l, no. 10 (l993):1439—47.

But with these new "microcell" systems there is in downside to go along with the reduced power from the hand—held units. That downside is the need for hundreds of thousands of new cell sites. That's right—the new systems will require a cell site on almost every light, telephone, or power pole.

4

Some reporters and magazine feature writers, confused on the physics of radiofrequency radiation, have erroneously reported that we need not be concerned about energy radiated from cellular telephones because it is low-energy radiation. Such statements, clearly, reflect the reporters reliance on industry scientists to provide them with explanations, and those explanations are wrong. Certainly X rays, photon for photon, are more energetic than RF photons. But the issue here is not that of the energy of single photons. The industry representatives are confident in their belief that few nonscientific persons will understand the distinction in what they falsely represent. The fact of the matter does not lie with the energy of a single photon but, rather, with the total numbers of photons.

To put it more clearly, the energy radiated from the antenna of a portable cellular telephone typically is comprised of 1.7 x 1023 photons each second. Written in standard form this becomes 170,000,000,000,000,000,000,000 photons each second. Now it can be seen how differently the argument shapes up when we look at the real radiation from a cellular telephone antenna instead of the misrepresentations to which the comparison of photon energies lends.

Let's take it another step further. We know that X rays penetrate tissue and can cause tissue damage through cell destruction and damage. We need about 1 million microwave photons at cellular telephone frequencies to provide the same energy as an X-ray photon. So, we see that the typical radiation from a portable cellular telephone antenna is equivalent in magnitude to about 1.7 x 1017 (170,000,000,000,000,000) X-ray photons per second.

Since the radiofrequency and microwave photons each carry a smaller packet of energy than do X-ray photons, the absorption results in a different mechanism leading to cell damage. Nevertheless, the results are the same. The end result is that the absorbed energy, whether from X-ray or radiofrequency radiation, will lead to tissue damage if the energy density is high enough. In the past the industry's often—stated "belief" was that radiofrequency radiation was not energetic enough to cause DNA or chromosomal damage. Now, faced with contradictory research findings coming from all points of the earth—the industry has changed its defense by claiming that no research is available at exactly the cellular transmit frequencies. Well, if that's true then there is also an absence of safety-related research.

During 1998 J. L. Phillips189 reported research that was conducted at the cellular telephone transmit frequencies. His research did employ human cells. His research was conducted at very low power levels—low enough to rule out any heating effects. Phillips essentially replicated the DNA damage studies of Lai/Singh.

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189 J. L. Phillips, "DNA Damage in Molt-4 Lymphoblastoid Cells Exposed to Cellular Telephone Radiolrequency Fields in Vitro," Bioelectrochemistry and Bioenenergetics 45, (1998):103—10.

His results are the same. Exposure to low levels of radio-frequency radiation causes DNA damage.

Consider the overwhelming research reporting high SAR and total energy absorption. How has the industry, the CTIA, or its WTR (Wireless Technology Research) reacted to the research of Kuster, Hombach, Lovisolo, Fleming, Garn, and even Gandhi. All of these researchers report that more than 50 percent of the radiated energy is absorbed within the head and brain.

Previously the cellular industry spokesmen pronounced that the radiation was reflected away from the user's head—even though the manufacturers have known since the late 1970s that most of the radiofrequency energy is absorbed by the user. Their response to this definitive research, which is again reported independently from all corners of the world, is to ignore that it exists. They have done nothing by way of response to their customers or future owners of their products.

They have, however, prepared a media response kit, complete with questions and answers. Some of the answers to the questions are blatantly false except for the very specific and tailored phrasology used in wording the responses.

For example, the CTIA has recommended that industry representatives reply that, "The overwhelming consensus is that these products are safe under conditions of normal use."

Who provided the consensus and what constitutes normal use? The industry has strenuously objected to research findings that included operation of the portables with the radiating antennas in a variety of positions. After all, that's exactly the operating environment for the phones. Given a roomful of users, we're sure to find ouch of them holding their phones in any of a countless variety

of positions. The industry prefers only experimental data with the antenna positioned at the maximum distance from the user's head, but that's not how most people use the phones.

In response to their own question, "Can you cite any studies indicating that cellular phones are safe?" the CTIA's own Resource Manual cites no studies—there are no reports that indicate portable cellular phones to be "safe."

There are, however, many research reports that prove exactly the opposite: that exposure to radiofrequency radiation such as that from portable cellular telephones is dangerous, causing tissue damage, DNA damage, mental defects, EEG changes, and brain tumors.

During 1993 the EPA issued a draft report of their study of the hazardous effects of exposure to radio frequency radiation. The report concluded that not enough research had been performed to say that cellular phones were safe.

During November 1994 the Government Accounting Office (GAO) issued a report of its own investigation of the health hazard issue related to cellular telephones. The report concluded that there still wasn't enough research.

Neither of those reports considered the presentations of the 16th Bioelectromagnetics Society meeting. Nor did they consider the DNA chromosomal damage reported during 1994. Since 1994 the DNA damage and chromosome change research has been reinforced manifold.

5

During the annual Bioelectromagnetics Society conference of June 1994 a special daylong "workshop" session

was organized so that researchers could present their findings in a forum dedicated to the portable cellular telephone safety issue. The industry was represented heavily by Motorola, which had been scheduled to provide both the opening and closing technical presentations. Most of the other presentations, made by a broad worldwide cross-section of researchers, appeared not to be closely tied, in the sense of funding, to industry. The results of that single day-long session proved to be devastating to the cellular telephone industry's research position.

Not surprisingly, the news of the "corrected" Gandhi research findings, first revealed during the workshop, did not receive quite the same press and media coverage as did the claims of "safety" that were trumpeted at the time of the erroneous first report. Actually, the entire conference remained unnoticed by the U.S. media even though the most definitive research to date was reported.

The workshop became a litany of similar research findings, and the truth of the matter is that the results, presented by independent researchers working around the world were consistently alarming—high SARs from typical operation of portable cellular telephones.

The majority of presentations during the workshop took the Same tone; excess energy absorption, excess SARs, and EEG modifications. However, if any one presentation was to be a blockbuster presentation it had to be Adey's.[190] Recall that Adey has been researching low-level radiofrequency radiation effects for many years. Co-incidentally, he was heavily funded by Motorola. Toward the end of a rather lengthy presentation covering a broad

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[190] *W. R. Adey, Bioeffects of Mobile Communications Fields: Possible Mechanisms for Cumulative Dose, 16th Annual Bioelectromagneics Society Meeting, June 12-17, 1994, abstract book, p. 68. .*

scope of the work at his laboratory, Adey advised the audience that he has found exposure of cells to radiofrequency radiation results in increased proliferation, which continues long after the exposure is discontinued. This, in effect, confirms the twice-reported findings of Cleary. Of equal importance, Adey then continued that radiofrequency radiation produces DNA defects. That was a second report of DNA modifications. Recall that Verschaeve also reported DNA modifications at this same conference. Adey's reference to DNA modifications comes from research performed by Sarkar in New Delhi.

According to the way the workshop had been originally set up, the industry, represented by Motorola researchers, was to provide a technical presentation as an overview of mobile and personal communications. That presentation was not made. In its place a Motorola manager provided a very nice marketing pitch. The presentation seemed designed to let everyone in the audience, primarily researchers in need of funding, know from where the funding would come and that it hinged on the continued success of the cellular telephone industry. It was an unashamedly bold marketing statement made by a representative of the largest manufacturer in the industry.

Following the technical presentation, which did not take place, Dr. Guy was scheduled to provide a tutorial on methods of dosimetry. Dr. Guy, a longtime researcher in the field of bioeffects, as we knew by now, turned to the CTIA as one of three members of its Science Advisory Group. Guy did not attend.

Finally, the workshop was originally scheduled to conclude with a wrap-up presentation from Motorola's Balzano. Balzano did not make his presentation.